NEW CROP VARIETIES

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Described here are new varieties of certain field crops. The purpose of this annual summary is to provide the extension worker with reference information attuned to his requirements.

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Assembled by the Extension Service with the cooperation of State Extension Agronomists and the Agricultural Research Service--USDA

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Varieties Described

Inquiry about any variety described here should be directed to the State or producer releasing it.

WHEAT

Bonanza is a hard red spring wheat developed by DeKalb Ag Research, Inc., DeKalb, Illinois 60115 and adapted to appropriate areas of Minnesota, the Dakotas and Montana except where wheat stem sawfly is prevalent.

It is described as medium early--similar to Chris; good tillering; semidwarf; strong straw and so, resistant to lodging; resistant also to shattering, the common races of leaf, stem and stripe rust; but it is susceptible to wheat stem sawfly. Overall milling and bread baking quality is rated excellent.

Noteworthy are characteristics of the variety that enable it to respond to good cultural conditions--especially higher applications of nitrogen than are used with tall varieties.

Bridger (C.I. 14580) is a hard red winter wheat developed by Utah AES and USDA. It may well replace Cache, a variety with marginal quality, which presently dominates Utah's dryland wheat areas.

About average in yield, Bridger is an improvement over Delmar in threshability and over Cache in baking quality. In milling and baking tests it rated medium to strong gluten quality and good overall quality characteristics.

Bridger stems from the cross Delmar x Columbia. It resembles Columbia--bearded with bronze chaff and medium tall. Plants show a distinctive dark green color during early growth. The grain is red and of medium size. Bridger was tested as selection Ut. 646001 at several Utah locations from 1966 to 1969, and in the Western Regional Hard Red Winter Nursery during 1968-69. It excels Columbia, Itana, Wanser, McCall and Tendoy in resistance to dwarf bunt, but is susceptible to stripe rust.

Utah AES will maintain breeder and foundation seed. A supply of some 2000 to 2500 bushels of certified seed is anticipated in the fall of 1970.

Compiled by John R. Paulling, Agronomist

Danne (C.I. 13876), known experimentally as Danne 129-16 and OK 60431, is a hard red winter wheat released by Oklahoma AES and USDA. It traces to one of several hundred breeder's samples bequeathed to these institutions by the late Joseph E. Danne. The selection, according to Mr. Danne's records, traces to a 1950 cross between C55-4-17-18 (Super Triumph) and C66-45-3, a strain of complex pedigree. A selection designated C129-16 was first grown by Oklahoma AES in 1961, evaluated in intrastate tests in 1962-69, and in regional tests in 1966-68.

Danne is an awned, white chaffed variety. It is similar to Triumph in winterhardiness, plant height, straw strength, maturity, disease and insect reaction, and test weight. It excels Triumph in grain yield, and overall baking qualities, being particularly stronger in dough mixing characteristics and loaf volume potential. It is generally below Triumph in percent kernel protein. Danne is recommended in all areas where Triumph is grown.

Breeder seed will be maintained by the Oklahoma AES. It is expected some 1800 bushels of foundation seed will be available for allocation this fall.

Era is a semidwarf hard red spring wheat released by the Minnesota AES. Its pedigree embraces Frontana, Thatcher, Mida, Kenya 117A, Kenya 58, Lee, Newthatch, Pembina and Polk "sib." The semidwarf character traces to a selection from Montana.

Era is bearded, mid to late-maturing with good lodging resistance. It is resistant to the prevalent races of stem rust and to some of the virulent isolates encountered in the 1969 stem rust survey. Era appears to have a broader spectrum of stem rust resistance than Chris or Polk. It is resistant also to leaf rust, black chaff and bunt. Ergot does not appear to be a problem. The test weight is good, averaging 1/2 pound above Chris, but not quite as high as Polk. In regional trials Era outyielded Chris by 22.1%, and Minnesota data are similar.

The milling performance is satisfactory. Dough mixing and bread making characteristics are expected to be satisfactory when protein content and bake absorption are maintained at near normal levels. When grown

under comparable fertility levels Era has been as much as 2.3% lower in wheat and flour protein than Chris, and correspondingly low in bake absorption. To raise these levels, increased nitrogen application timed to serve late in the kernel filling period is indicated.

Certified seed will be available in 1971.

Fletcher is a semidwarf hard red spring wheat cooperatively developed by the Minnesota AES and USDA. Included in its parentage are Frontana, Thatcher, Mida, Kenya 117A, Kenya 58, Lee, Newthatch, Pembina and Polk "sib." The semidwarf character was introduced by a selection from Montana.

Fletcher has yielded about 5 percent better than Chris. It is bearded, mid to late in maturing and very resistant to lodging. It is resistant to the prevalent races of stem rust and to some of the virulent isolates found occasionally in the 1969 stem rust survey. Fletcher appears to have a broader range of resistance to stem rust than Chris or Polk. It is resistant also to leaf rust, black chaff and bunt. Ergot does not appear to be a problem.

The test weight is slightly lower than that of Chris, but yet satisfactory. Milling performance of Fletcher is satisfactory. Dough mixing and bread making characteristics are expected to be satisfactory when protein content and bake absorption are maintained at near normal levels. When grown under comparable soil fertility levels, Fletcher has as much as 1.1% less wheat and flour protein than Chris, with corresponding lower bake absorption. These conditions can be improved by making more nitrogen available to the crop during the kernel filling period.

Breeder seed will be maintained by the Minnesota station. Registered seed will be available in 1971 and certified seed in 1972.

Fox (C.I. 13987) is a hard red winter wheat cooperatively developed by Texas AES and USDA. It was selected from the F_3 generation of the cross Agent x Tascosa, made at College Station in 1958.

Fox is a mid-season variety that combines superior yield with leaf rust resistance and good quality. It is susceptible, however, to loose smut, mildew and wheat streak mosaic. The new variety is moderately prostrate in midwinter and mid-tall at maturity, with broad leaves. Its spikes are awned; its glumes are light brown. Fox is recommended for planting in North Central, Central, East and South Texas. It is not considered sufficiently cold-tolerant for the high and rolling Plains of Texas, or for States to the North.

Texas AES will maintain breeder and foundation seed. Some 20 acres of foundation and stocks were harvested for distribution in 1970.

Luke (C.I. 14586), a release of the Washington, Oregon and Idaho AES and USDA. It is a semidwarf soft white common winter wheat, selected in 1964 from the F_4 of the cross P.I. 178383/Burt/Sel. 101 (Sel. 101 being a line similar to Gaines). In Washington trials since 1967, Luke has equalled or excelled Gaines and Nugaines in grain yield. It is reasonably adapted to areas where new races of dwarf bunt are found on Gaines and Nugaines, and is resistant to all known races of both common and dwarf bunt. It is markedly superior to Gaines or Nugaines in resistance to Cercosporella foot rot, stripe rust and to snow mold caused by Fusarium nivale. Luke is similar to Gaines in general appearance, winterhardiness, and growth habit. It is slightly less resistant than Nugaines to shattering, lodging, and leaf rust, and is susceptible to flag smut.

Seed for commercial planting will be available after the 1971 harvest in the three States releasing the variety.

Paha (C.I. 14485) is a soft white winter club wheat developed by the Washington, Oregon, and Idaho AES and USDA. It was selected from an F_4 line of the cross Suwon 92/4 * Omar at Pullman in 1964 and tested as experimental number WA 4966. Paha is most competitive with currently grown varieties in the 11 to 15 inch precipitation areas, especially under conditions that favor stripe rust and Cercosporella foot rot injury to susceptible varieties such as Omar. However, it is more susceptible than Omar to powdery mildew and flag smut.

To continue the comparison, Paha excels Omar in resistance to lodging and shattering, is 4 to 8 inches shorter, and similar in growth habit, winterhardiness and reaction to dwarf bunt. The two varieties are similar also in kernel type, milling and baking qualities, and amylograph rating. The flour is low in protein and high in quality desired for both foreign and domestic soft wheat markets.

Seed for commercial planting will be available in the three States involved after the 1971 harvest.

Pronto is a hard red winter wheat developed by DeKalb Ag Research, Inc., DeKalb, Illinois 60115.

It is described as a variety with high yield potential; very early maturity--1 to 2 inches shorter than Triumph most years; heavy test weight; and winterhardiness comparable with Triumph and Parker. It is resistant to soil-borne mosaic and equal to Triumph in resistance to other diseases.

Milling and baking qualities of Pronto are described as better than those of most varieties grown in its region of adaptation: southern and southeast Kansas, southwest Missouri, Oklahoma and northwest Texas.

Scoutland (C.I. 14075), developed by Nebraska AES and USDA, originated as a single head selection from Scout (C.I. 13546), (see New Crops Varieties-No. 5, 1963) that differed significantly from the Scout average in dough handling properties. In Nebraska, it is considered best adapted to the Southeast and South Central Cropping Districts. There Scoutland has equalled Scout 66 (see New Crops Varieties-No. 9, 1967) in performance. Its use is expected to improve the general quality of wheat produced in these districts.

Scoutland is similar to Scout in most agronomic traits. It differs from Scout in having significantly stronger dough handling properties.

Its bread baking quality is excellent. The two varieties are similar in field resistance to stem rust races currently prevalent in the area. A characteristic that differentiates Scoutland from its predecessors is its long beak. Scout and Scout 66 have short beaks.

Production from a 60-acre foundation seed increase field will be available following the 1970 harvest. Allocation to certified growers will be made by the Foundation Seed Division, Department of Agronomy, University of Nebraska.

Springfield (C.I. 14589), a semidwarf soft white spring wheat that is resistant to prevalent races of stripe rust and stem rust, was released by the Idaho and Oregon Experiment Stations and USDA. It is best adapted for production on irrigated land in southern Idaho and eastern Oregon, and in high rain-fall areas of surrounding States.

The new variety is further characterized by very stiff straw, medium maturity, awnleted spikes and white glumes. While very resistant to prevalent races of stripe rust and stem rust, it is susceptible to leaf rust and mildew. Springfield is superior to Lemhi 66 in milling yield and is satisfactory in baking quality for soft wheat products.

Breeders seed will be maintained by the Tetonia Branch, Idaho Experiment Station. Some 8,000 bushels of registered seed will be available in Idaho and 800 in Oregon following the 1970 harvest.

Yamhill is a mid-tall soft white winter wheat released by the Oregon AES. Productive, and equal or superior to prevailing varieties in milling and baking qualities, Yamhill is intended to replace Druchamp and to some extent Gaines and Nugaines--particularly on hillsides in western Oregon. The new variety is resistant to stripe rust and lodging.

Froker (C.I. 8444) is a spring oat variety, developed by the Wisconsin AES. In height similar to Portal or an inch taller than Holden, Froker resists lodging better than Lodi. Its hull is yellow, grain plump, and test weight is high. Heading and ripening dates of the new variety are near those of Lodi, its performance data indicate high yield capacity. Yet a main reason for releasing Froker is to provide crown rust resistance needed especially in southern Wisconsin.

Froker is resistant to smut and has genes AB for resistance to stem rust. It is recognized there are races, thus far unimportant in Wisconsin, that can attack all available oat varieties. Red leaf (BYDV) can attack Froker, which may have more tolerance than Garland or Holden, but less than Beedee or Jaycee. Froker is susceptible to race 264 crown rust but is generally resistant to crown rust now occurring in the State.

Certified seed will be available in late 1970.

Lane is a winter oat developed by the Oregon AES for use in the Willamette Valley where it is expected to replace Grey Winter. Of Grey Winter and Letoria parentage, Lane is tall, mid to late, and produces plump grey kernels. It lodges less than Crater, equals Crater and excels Powys in winterhardiness.

Multiline Blends M70 and E70, recent releases of the Iowa AES and USDA, are composites involving isogenic lines of different recurrent parents--C.I. 7555 and C.I. 7979, respectively. Seven isogenic (or near isogenic) lines comprise M70 while E70 consists of 11.

M70 carries the Pg 2 and Pg 4 genes for resistance to stem rust races 6, 7, 7a and 8. It is hetergeneous for crown rust resistance. Mid-season in maturity and of medium height, it produces medium size yellow kernels. Panicles are semi-compact and the straw is moderately strong.

E70 is homogeneous for the Pg 4 stem rust gene and carries the Pg 2 stem rust gene. Its crown rust resistance is described as the best known. E70 is early maturing with semi-compact heads, strong straw and equal or

better yielding ability than other varieties. The kernels are large and plump, of good test weight.

Foundation seed is available to certified seed growers in Iowa and other North Central States. Address inquiries to Dr. C. D. Hutchcroft, Agronomy Department, Iowa State University, Ames, Iowa 50010.

Nodaway 70 (C.I. 8442), a spring oat, jointly released by Missouri AES and USDA, originated as a panicle selection from Nodaway (see New Crops Varieties No. 4-1962). In plant type and seed characteristics, it resembles the parent having a large culm, a distinctive brace root system, wide spreading panicles, short broad glumes which spread wide at maturity and short plump kernels. The two are similar also in disease reaction.

Nodaway 70 has a higher yield record and test weight, and larger seed. It is a day earlier than the parent, an inch shorter and is more uniform in height and maturity.

Some 750 bushels of foundation seed are available for distribution to certified seed producers in Missouri and other North Central States, on request to Department of Agronomy, Foundation Seed Stocks, Missouri Agricultural Experiment Station, Columbia, Missouri 65201. Breeders seed will be maintained by the Missouri Station.

Otter (C.I. 8304), a spring oat developed by the Minnesota AES, is a single F6 plant selection from the cross Landhafer 3x Mindo 2x Hijari x Joanette 4x Andrew 5x Rodney. In the Midseason Nursery it ranked 1st, 5th and 6th in yield for 1967, 68 and 69 and appeared adapted to a wide area. It is similar to Garland in maturity and height and equal to Lodi in lodging resistance. In Minnesota trials Lodi excelled Otter in test weight, but in the Midseason Nursery Otter was slightly superior. Its groat percentage is better than test weights indicate. The seed is white and flourescent, under ultraviolet light. Otter is resistant to smut, has genes A, B, and D for stem resistance, but is susceptible to race 6AF. It has a S-MS crown rust reaction in the Minnesota Buckthorn Nursery.

Minnesota AES will maintain breeder seed. Certified seed will be available in 1971.

Walken (C.I. 8205) is a winter oat released by the Kentucky AES. It originated from a 1960 cross of 'S. 172' (C.I. 4897) an introduction from Wales, x Ky. 56-302 (C.I. 7621), a Kentucky selection. Hence the name denotes the origins of the parents. Head row selection continued through four generations. Rogued progeny increases of a single F_4 panicle constituted the released seed.

Characteristics of the new variety include: prostrate juvenile growth; plants midseason to late, midtall, with many tillers, large, stiff culms; wide erect leaves; erect, compact, midsize panicles; numerous spikelets; slender grains and few, if any, awns.

Under evaluation in regional nurseries since 1966, Walken has been outstanding for winter survival and lodging resistance. It was released in Kentucky to provide a winter oat with potential for high forage and grain yields.

The Kentucky station will maintain supplies of breeder and foundation seed.

BARLEY

Casbon (C.I. 15196) is a 6-rowed awned feed barley developed from a cross between Cascade and Bonneville. It was developed for Western Oregon by the Oregon AES. Casbon is a stiff strawed, winter, mid-tall, late variety. The kernels are blue, mid-long to long. In yields Casbon has an average of 10 to 15 percent higher than the commercially grown varieties. Foundation seed was distributed in the fall of 1969.

Rapidan (C.I. 14006) is an awnleted winter barley selected at the Virginia AES from the cross Cebada Capa x Wong 2x an awnleted selection from Hudson. It is expected to replace Wong and James in Virginia where its use is recommended Statewide. In comparison with Hanover--which it resembles--Rapidan has yielded better, stands better, matures at approximately the same time, is more winter hardy and about an inch shorter. However, the new variety is slightly less hardy than Wong.

Rapidan has field resistance to powdery mildew, is moderately resistant to leaf rust, and is resistant to the races of scald presently found in Virginia. It is susceptible to a race of scald which has occurred in recent years in western North Carolina and South Carolina.

Seed will be commercially available in 1971.

Vale 70 (C.I. 13995) is a mid-tall, late, 6-row spring barley. It was a selection made from the variety Vale based on a green glossy glume color. Vale 70 was developed by the Oregon AES for the irrigated areas of the Snake River Valley. Foundation seed was released this spring.

RICE

CS-M3 (C.I. 9675) was developed from the cross C6 smooth x Calrose (C.I. 8988) at the Rice Experiment Station, Biggs, California by California Cooperative Rice Research Foundation, Inc., California AES, and USDA. CS-M3 is a sparsely awned medium grain variety with glabrous lemma, palea and leaves though a few hairs are often found on the lemma keel bow. During 7 years of testing it has outyielded Calrose by 4.3 percent. The two varieties are similar in kernel size and shape, plant height, date of heading and maturity; and in quality determinations such as iodine-blue and alkali digestion score. CS-M3 is equal or superior to Calrose in milling characteristics. It appears to be adapted to areas in California where Calrose is grown.

Foundation seed is maintained by the California Cooperative Rice Foundation, Biggs, California 95917.

RYE

Wheeler is a tetrapolid forage rye developed by the Michigan AES from a cross between domestic and oriental types. In tests there it has shown greater vigor and higher production--even 30 percent more--than other types. The new variety offers the additional advantage of offering a source of uniformly high quality seed.

Certified seed will be available in 1971.

Wintergrazer is described by its developer and distributor, Pennington Grain and Seed, Inc., Madison, Ga. as a forage variety suited to the area bounded by the Ohio River at the north and New Mexico on the west. Plants are fine stemmed with broad leaves, good tillering ability and height at maturity of 3 to 4 feet. Noted was resistance to powdery mildew, leaf rust and scald.

Wintergrazer 70, also a product of Pennington Grain and Seed, Inc., Madison, Ga., is described as a selection from S.C. 1030, characterized by high forage production, slightly greater tillering capacity than Wintergrazer and adaptation to the same region. Both varieties are credited with resistance to powdery mildew, leaf rust and scald; rapid early growth and high yields of forage for grazing, ensiling or haymaking.

SOYBEANS

Amsoy 71 was developed cooperatively by the Illinois, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, Purdue, and South Dakota Experiment Stations, and the U.S. Department of Agriculture. It is phytophthora root-rot resistant, but otherwise is similar to Amsoy.

In the absence of phytophthora, Amsoy 71 and Amsoy are similar in yield and other characteristics. The varieties are alike in other characters, each having purple flowers, gray pubescence, tan colored pods, and a shiny yellow seed with yellow hila.

Amsoy 71 is adapted to those areas where Amsoy has performed well, plus those areas where Amsoy is adapted but has not been grown, or has done poorly, due to prescence of phytophthora root rot. Amsoy 71 will provide protection against phytophthora root rot wherever grown. Breeders seed will be maintained at Purdue University.

Anoka has been released cooperatively by the Minnesota, Michigan, North Dakota, and South Dakota Agricultural Experiment Stations, and the U.S. Department of Agriculture.

It is of group I maturity, and has dark green foliage, a rather "full" canopy, purple flowers, tawny pubescence, and shiny yellow seeds with black hila. On high lime soils Anoka has shown high susceptibility to chlorosis. Accordingly, it should not be planted on such soils. Anoka averages about one day later than Chippewa 64. It has yielded somewhat more on ordinary soils and considerably more on sandy soils than Chippewa 64. It lodges a little more than Chippewa 64, is shorter, has larger seed, and has a much higher oil content.

Seed was shared with Michigan, North Dakota, and South Dakota in 1969, and the four States increased the variety in 1969. This production will be released to registered and certified growers in the four States in 1970.

Coker 208 is a selection from Coker Hampton described as being very similar to Coker Hampton 266, but 6-10 inches shorter. The new variety is characterized by short, very erect plants, purple flowers, gray pubescence and brown pods. Attributes include high yield, excellent resistance to folier pathogens, shattering and lodging, and high oil.

Of Group VIII maturity, the new variety is considered best suited to the Southeastern U.S., especially those situations where conditions favor maximum growth. These would include fertile soils in the northern edge of Group VIII area.

The producers, Coker's Pedigreed Seed Co., Hartsville, S.C. advise that seed is available in limited supply.

Dunn, a new soybean variety developed by the Wisconsin AES and cooperative release by South Dakota and Minnesota AES, and the U.S. Department of Agriculture, is of group I maturity. It has purple flowers, light tawny pubescence, and shiny yellow seeds with a black hila. It is about one inch shorter and lodges slightly more than Chippewa 64. Dunn is superior in yield to Chippewa 64 and similar to Anoka and Wirth.

Dunn has no particular disease resistance.

Seed supplies were increased in 1969 and will be distributed to certified seed growers in 1970 through the appropriate foundation seed organizations.

McNair 800, a product of McNair Seed Company, Laurinburg, N.C., is a selection from the cross Roanoke x (Ogden x CNS). It is of Group VIII maturity and considered by the originators to be best adapted to a zone extending southward from central North Carolina to south Georgia, and extending westward through the midsouth.

The new variety is characterized by white flowers, gray pubescence and pods, clear yellow seedcoats, buff hila and maturity similar to Bragg. It is credited with high yield and resistance to leaf diseases.

Seed is available.

Protana was released cooperatively by the Illinois, Iowa, Ohio, Purdue and South Dakota Agricultural Experiment Stations, and the U.S. Department of Agriculture. Developmental work for Protana was cooperative between U.S. Department of Agriculture and the Purdue AES.

Protana is being released because it has distinctly higher protein content than currently grown varieties, and is resistant to phytophthora root rot. It should be grown only by producers prepared to grow and market it as a special purpose high protein variety.

Protana performed especially well in Indiana tests in 1964-1968. In these tests it equalled Amsoy in seed yield and averaged about 4 points higher in percent protein.

Protana is of group II maturity, averaging about 5 days later than Harosoy 63, and 3 days later than Amsoy. It has purple flowers, gray pubescence, and light brown pods. The plants have a spreading leaf-canopy and are moderately resistant to lodging. The seeds are medium in size and shiny yellow with imperfect black hila color. It is resistant to phytophthora root-rot, moderately resistant to downy mildew, and has a low incidence of purple stained seed.

Seed supplies are being increased in 1969 and will be distributed to qualified seed growers through the appropriate foundation seed organizations in the participating States.

Ransom, a new high yielding soybean variety, was developed by the North Carolina AES and the U.S. Department of Agriculture, and cooperatively released by the U.S. Department of Agriculture and experiment stations of the southern States. It is resistant to purple seed stain, seed mottling; the leaf diseases bacterial pustule, wildfire, and target spot. It is moderately susceptible to phytophthora root rot, and root knot nematode.

Ransom is best adapted to the well-drained coastal plain soils of the southeast. In the area of best adaptation, Ransom yielded 2.5 bushels more per acre than Bragg. It is of maturity group VII, has purple flowers, tawny pubescence. The seeds have a yellow coat and black hila.

SRF 100 - Is a narrow leaf variety of Group I maturity developed by the Soybean Research Foundation, Plant Institute Bldg., Mason City, Illinois 62664. In plant type, oil and protein content, and maturity it is quite similar to Chippewa 64. It has purple flowers, tawny pubescence, brown pods, shiny yellow seed coat, and black hila. It is resistant to phytophthora rot. Unlike Chippewa 64 it has lanceolate shaped leaves and bears a considerable number of 4 seeded pods. Seed size of SRF 100 is slightly smaller than Chippewa 64.

SRF 300 - A narrow leaf variety of Group III maturity was developed by the Soybean Research Foundation. In plant type, oil and protein content, and maturity, it is quite similar to Wayne. It has white flowers, tawny pubescence, brown pods, shiny yellow seed coat, black hila, and round seeds. Unlike Wayne it has lanceolate shaped leaves and under favorable conditions 1/3 or more of pods may bear 4 seeds. Occasionally, 5 seeded pods can be found in the variety. Seed weight averages 14.7 grams per 100 seeds compared to 16.1 for Wayne.

SRF 307 - Another narrow leaf variety of Group III maturity was developed by the Soybean Research Foundation. This variety is a sister strain of SRF 300 and is very similar to SRF 300 in all aspects except that approximately 30% of seeds have brown hila (the remaining 70% are black), and the yield of SRF 307 has been slightly higher than SRF 300.

SRF 400 - Is a narrow leaf variety of Group IV maturity developed by the Soybean Research Foundation. In plant type, oil and protein content, and maturity it is quite similar to Clark 63. It has purple flowers, tawny pubescence, brown pods, black hila, dull yellow seed coat, and is resistant to phytophthora root rot. Unlike Clark 63, it has lanceolate shaped leaves and bears many 4 seeded pods. Seed size averages 14.3 grams per 100 seeds compared to 16.1 for Clark 63.

CRAMBE

Indy (P.I. 279346) is a U.S. Department of Agriculture introduction from Ethiopia of Crambe hispanica. It was tested by the Purdue AES at two Indiana locations during 1968-69. Indy requires a shorter growing season than other introductions or the variety Prophet; however, its yields may be less. Its seed has a higher test weight and similar oil content to abyssinica strains. The new variety might be useful in multiple cropping systems because of its early maturity.

Certified seed should be available after this year's harvest.

PEANUTS

NC-17 is a compact bunch-type variety which clusters its pods closely about the taproot. It matures 10-14 days earlier than NC-2 or Florigiant, making it the earliest Virginia-type variety available.

Yielding ability of the new variety is high when harvested at optimum maturity. Quality-wise, NC-17 is average for fancy-size pods, and above average for sound mature kernels and extra large kernels.

NC-17 compares with the Florigiant variety in susceptibility to leafspot and Southern stem rot. Its pod retention is poor after optimum maturity is reached.

The new variety is a selection from a cross between a Florispan derivative and Jenkins Jumbo made at the Florida AES. The final selection was made in North Carolina. It is estimated some 2000 tons of seed will be available for 1971 planting.

Spancross (Ga. C 32 S) is an early maturing bunch peanut developed by the Georgia Coastal Plain Experiment Station and USDA; and released cooperatively by the Georgia and Oklahoma stations and USDA. It was developed by continuous selection for Spanish type progenies from an inter-specific cross between the Argentine variety and the wild annual decumbent species (Arachis monticola). Spancross is the first peanut variety derived from an interspecific hybridization program.

It has typical Spanish plants, pods and seed. The plants mature in about 120 days, are fully fertile, and have the same chromosome number (2n-40) as other cultivated peanuts. The pods are intermediate in shape between Starr and Argentine. Spancross seed is larger and more uniform in maturity and size than Starr seed. The new variety is similar to present commercial cultivars in shelling and processing quality as determined by objective and subjective tests.

Seed will be available for 1971 planting.

Tifspan (Ga CI 27) is a Spanish-type peanut with impressive yield records in both the 9-location National Regional Tests and the 3-locations in Georgia where the variety was developed cooperatively with USDA. Oklahoma is cooperating in the release. In the 9-location National Regional Tests, Tifspan outyielded Starr 6.7 percent and Argentine by 5.6 percent. On this basis the new variety is regarded as our most productive Spanish peanut.

Tifspan plants are medium in size with the typical Spanish bunch habit of growth. The pods are slightly longer than those of Starr and Argentine and intermediate between the two in shape.

Foundation seed will be available for 1971 planting.

Delcott 277, a product of the Missouri (Delta) AES, and USDA features the combination of earliness, wilt resistance, productivity and fiber quality. It possesses a high level of tolerance to Verticillium wilt, is resistant to Fusarium wilt, but susceptible to bacterial blight and root knot nematodes. The variety is especially adapted to the sandy loam, loam and silt loam soils of the Upper Delta area where it was developed. Here it has equalled or surpassed established varieties in yield.

The bolls are large, with adequate storm resistance for spindle type machine harvesting. The staple is significantly longer than that of most varieties grown in the area. Its yarn strength is high, fiber strength above average and fiber fineness well within the desirable range.

Seed will be distributed by Foundation Seed Stocks, Department of Agronomy, Missouri Agricultural Experiment Station, Columbia, Missouri 65201. Seed will be available in 1971.

HY-BEE 100-A, a selection of Cotton Hybrid Research, Inc., offered by Pennington Grain and Seed, Inc., Madison, Georgia. The plant is described as strong and erect, with good storm resistance. Its small leaves and thin foliage permit good insecticide coverage along with light and air penetration conducive to rapid opening. Bolls average 70-75 per pound, lint length 1-1/16 to 1-3/32, lint percentage 39-41, Pressley index 80 to 90,000 pounds and micronaire 4.2 to 4.8. It is an early cotton with very good tolerance to Fusarium wilt, some tolerance of Verticillium wilt.

HY-BEE 200-A, a product of the same organization, is predominantly a smooth leaf cotton with bolls averaging 75-80 per pound, a desirable measure of stormproofness, along with leaf and foliage characteristics ascribed above to HY-BEE 100-A. Lint percentage is described in the 39-41 percent range, Pressley index 85,000 pounds and micronaire 4.1-4.7. The variety is credited with very good tolerance of Fusarium wilt and slight tolerance of Verticillium. It is rated as widely adapted.

HY-BEE 300-A, also a product of Pennington Grain and Seed, Inc., was developed for the Texas and Oklahoma areas that require stormproof types. Its foliage characteristics compare with those of HY-BEE 100-A and 200-A. It is described as ideal for stripper mechanical harvesting, with upright stiff stalks of desired height and bolls averaging about 68 per pound. It is earlier than other stormproof cottons yet holds its fruit well after opening. Indicated lint percentage is 34.9, staple length of one inch or better, Pressley index 93,000 and micronaire in the desirable range. The new variety has exhibited some tolerance of Verticillium and Fusarium wilt.

Westburn 70, a similar variety to Westburn except for its longer fiber and earlier maturity, was developed cooperatively by the Oklahoma AES and USDA. Westburn 70 is characterized by stormproof bolls, resistance to Fusarium wilt, slight tolerance to Verticillium wilt, but is susceptible to bacterial blight. It produces high yields under Oklahoma conditions, especially on dryland with limited irrigation, regardless of presence of Fusarium wilt.

Breeder and foundation seed may be obtained through Oklahoma Foundation Seed Stocks, Inc., Oklahoma State University, Stillwater, Oklahoma 74074. Seed will be available for 1971 planting.

TOBACCO

Coker 213 is a disease resistant flue-cured variety, adapted to a range of soils. It was released to growers in 1970 by the developer, Coker's Pedigreed Seed Co., Hartsville, S.C. The new variety was reselected from a cross involving Coker 319 and Coker 139, and was in the 12th generation when released.

Coker 213 is normally medium late in blooming, averaging about 60 days from transplanting. Its leaves are broad--averaging 11-12 inches when cured, medium bodied and cure to a lemon or orange color. The variety has high resistance to black shank, good resistance to bacterial

and fusarium wilt, and tolerance to brown spot. Chemical constituents and physical characteristics are well within the range of acceptability with the trade. The variety is credited with good resistance to wind damage and low leaf breakage during harvesting and stringing.

Seed is available.

Georgia 1496, a product of the Coastal Plain Experiment Station, Tifton, Georgia is a flue-cured (bright) tobacco that features resistance to black shank, Granville and fusarium wilt, and root knot; along with moderate tolerance for brown spot. In Georgia tests it outyielded Hicks by some 300 pounds. The chemical constituents and physical characteristics are within the range of acceptability to the trade.

The new variety is intermediate in type between NC 95 and Hicks Broadleaf. Plants are 5-6 inches taller than Hicks, with larger leaves more closely spaced and more erect. In type and shape of leaves the two varieties are similar.

Parentage of Georgia 1496 is (NC 95 x PD 603) x NC 95, F8.

The Georgia station reports a nominal quantity of breeder seed but no foundation or certified seed at this time.

McNair 133, a flue-cured tobacco developed by McNair Seed Co., Laurinburg, North Carolina, is characterized by broad thin leaf, moderate height, relatively late maturity, and 18-22 leaves per plant. It was derived from the cross Coker 316 x McNair 12. Features credited to the new variety include high yield, ease of curing, high percentage of cigarette tobacco and high resistance to black shank and Granville wilt. Its leaf characteristics are similar to those of Coker 316 but with better chemical balance, and a tendency to cure to richer tobacco.

Seed is available from the breeder--McNair Seed Company.

Speight G-28, a product of Speight Seed Farm, Winterville, North Carolina was developed from a cross of Coker 139, Oxford 1-181 and N.C. 95. It produces good yields of quality tobacco. Chemical constituents and physical characteristics are within the range of acceptability to the trade.

The plants are short with upright medium leaves closely spaced, and limited ground suckers. Flowering is medium to late. Speight G-28 features high resistance to black shank and Granville wilt; moderate resistance to Fusarium wilt and tolerance to brown spot.

Seed is available.

LENTIL

Tekoa, the first improved variety of lentils developed in the United States, was cooperatively released by the Washington and Idaho Experiment Stations and USDA. It was derived from P.I. 251784 at the Washington station. The plants are 12-14 inches tall with a weakly upright growth habit. The seed is about one-fourth larger, less mottled and more uniform in color than seed of lines now grown commercially. The cotyledons are yellow but similar in cooking qualities. In 1966-69 yield tests, Tekoa exceeded commercial lines some 50 pounds per acre.

MILLET

Hygrazer hybrid is a pearl millet developed and distributed by Pennington Grain and Seed, Inc., Madison, Georgia, using selections developed at the Georgia Coastal Plain Experiment Station. Credited to the variety are above average disease resistance, total production, rapid early growth, and growth recovery in late summer and fall. Plants approximate 6 to 7 feet at maturity, with numerous tillers and fine stems.

ALFALFA

AS 13 is a product of Ferry-Morse Seed Co., P.O. Box 100, Mountain View, California 93723. It stems from 13 plants chosen from California and Arizona nurseries for their seed production, spotted alfalfa aphid resistance, and general agronomic performance. Nine of these plants trace to Moapa and four to Lahontan.

Tested in Arizona and the San Joaquin and Sacramento Valleys of California, AS-13 is considered suited for hay, greenchop and dehydrating in the southwestern United States. It is adapted to more northern areas than nonhardy alfalfas. In dormancy AS-13 ranks between Moapa and Lahontan. Growth is upright, fairly uniform in spring and fall. The flowers are predominantly purple. The variety is rated tolerant to spotted alfalfa aphid and more resistant to downy mildew than Moapa.

Certified seed will be offered in 1970.

AS 49, a product of Ferry-Morse Seed Co., originated from 12 plants selected in California and Arizona nurseries for their seed production ability, spotted alfalfa aphid resistance and general agronomic traits. Six of these plants trace to Cody, three to Zia and three to Lahontan.

Like AS 13, this variety was tested in Arizona and the San Joaquin and Sacramento Valleys of California. It will be merchandized in the Southwestern States for production of hay, greenchop and dehydration.

AS 49 is characterized by predominantly purple flowers, fairly uniform upright growth, and semi-dormant winter growth habit in California. It is resistant to spotted alfalfa aphid.

Seed production will follow the same pattern as for AS 13.

Caliente, a Ferry-Morse Seed Co. product, is a 15-clone synthetic. Ten clones were selected from AS 10 which was constituted from African, Indian and Iraqi plant selections, and 5 clones were selected from AS 13. All were screened for spotted alfalfa aphid resistance, downy mildew reaction, seed set and general agronomic traits. Tested in the Imperial, San Joaquin, Sacramento and Coastal Valleys of California, Caliente will be merchandized in the southwest.

Plants are fairly uniform and nondormant in these California winters, upright in growth habit, resistant to spotted alfalfa aphid and tolerant to downy mildew. Flowers are predominantly purple.

Seed production follows the same pattern as AS 13.

Moapa 69, developed by the Nevada AES and USDA, is Moapa reconstituted to improve performance and to replace two clones that were difficult to maintain. Selection was based on yield, persistence and reaction to spotted alfalfa aphid. The new variety is intended for hay production in areas of Utah, Nevada and California where Moapa is presently adapted.

Moapa 69 is similar to Moapa in uniformity of growth, winter dormancy and rapid recovery after cutting. It is more resistant than Moapa to biotypes ENT A, E and F of the spotted alfalfa aphid but only slightly more to ENT C.

Breeder seed will be maintained by Nevada AES. Certified seed will be available in 1971.

Tempo was developed by Farmers Forage Research Cooperative, Rte. 2, Box 290, Lafayette, Indiana 47906. Its parentage traces to Ranger and Buffalo and to wilt-resistant segregates of a Flemish variety x Vernal cross. Test data indicate favorable performance throughout the midwest and Middle Atlantic States--where Vernal, Ranger, Buffalo and Saranac are grown.

The variety is characterized by purple and blue flowers and dark green leaves; quite uniform recovery growth, leaf shape and color. It is less dormant than Vernal, slightly more so than DuPuits, and similar to Saranac. It is upright in growth habit.

Certified seed will be available in 1970.

Victoria is a semi-decumbent synthetic variety developed by the Arkansas Experiment Station for grazing, dehydration and hay. Its parentage

consists of six clones drawn from two 16 year old source nurseries there of about 500 creeping-rooted or rhizomatous plants. The area of adaptation includes northern Arkansas and bordering or nearby sections of Oklahoma, Kansas, Missouri, Illinois, Kentucky, Indiana and Tennessee. Test sites include Fayetteville and Keiser, Arkansas; Urbana and Carbondale, Illinois.

Flower color of Victoria ranges from white through shades of yellow to green and purple. Crowns are wide and low, and stems are relatively small. Winter dormancy of Victoria in Arkansas compares with Vernal, Culver and Rhizoma. Plants are semi-decumbent with some variation under grazing or thin stands; and mostly erect in dense stands. Internodes are relatively short; stems per crown are numerous and relatively small.

Victoria has shown good resistance to spotted alfalfa aphid, above average tolerance to leafhoppers, some resistance to flower thrips and moderate resistance to bacterial wilt, common leaf spot and downy mildew.

Certified seed will probably be available in 1971.

WL 306 was released this year by Waterman-Loomis Co., 10916 Bornedale Drive, Adelphi, Maryland 20783. Its development began in 1963 with the aim of increased resistance to both pea and spotted alfalfa aphids, and to bacterial wilt. Repeated screenings and recombination of parent materials preceded testing in Kansas, Missouri, Illinois, Iowa, Nebraska, Minnesota, Ohio and Pennsylvania--the area the variety is expected to serve.

WL 306 exhibits various flower colors: about 70 percent purple, 20 percent blue or bluish green, and the remainder yellow, yellow variegated and white. It is less uniform than Buffalo or Cody and about equal to Vernal; slightly less fall dormant than Buffalo or Saranac. WL 306 is predominantly upright in growth habit.

Certified seed will be available this year.

LESPEDEZA

Interstate is a low growing, profusely branched sericea developed by the Alabama AES especially for highway plantings and other conservation purposes. However, its fine soft stems offer promise of usefulness as a grazing and hay crop. In tests from Illinois southward and Oklahoma eastward the new variety has appeared widely adapted.

The variety stems from development work begun in 1950 that yielded the synthetic variety Serala (see New Crop Varieties No. 5-1963). One of Serala's six parent lines, following irradiation in 1957, gave rise to a mutant identified in the F_4 generation and found stable in two additional generations of testing. Interstate is the bulk of this sixth generation progeny.

Certified seed is available.

VETCH

Lutana, a cicer milkvetch (V. astragalus) was selected from P.I. 66515 at the SCS Plant Materials Center at Bridger, Montana and released jointly with the Montana and Wyoming AE Stations. It is a perennial, rhizomatus, herbaceous legume, with shiny yellow seeds that approximate in size 122,000 per pound. The variety represents a mass of 127 plants selected from a spaced planting of twice that number.

Lutana is adapted to medium to moderately coarse textured soils, slightly acid to moderately alkaline, yet it has been stablished on soils with a pH of 9.8. Optimum conditions for its growth in Montana include 18 to 35 inches annual moisture, 2,500 to 8,000 feet elevation and a minimum 50-day frost-free growing period. The crop has greater cold and moisture tolerance than alfalfa.

The variety was developed for permanent hay or pasture. It is useful also for erosion control and as food for big game. Cicer milkvetch is susceptible to root-, crown-, and stem-rot. Aphids, thrips, seed chalcid and grasshoppers have been known to cause damage.

The SCS Plant Materials Center at Bridger maintains breeder and foundation seed. Seed will be available in 1971.

VETCH (cont.)

Nova is a white flowered vetch developed by the Alabama AES from a cross of Vicia sativa (Ala. 1894) x V. cordata (P.I. 121275). It is characterized by large seed yields and reseeds well, providing early forage and ground cover. Nova is resistant to shattering, the vetch weevil and to certain root-knot nematodes.

Nova should be adapted to the same areas as Willamette and Warrior. It is not as cold hardy as hairy vetch; and appears to have higher phosphorus, potassium and pH requirements.

Certified seed is available.

CRIMSON CLOVER

Tibbee is a sister selection of Frontier (see New Crop Varieties No. 4-1962) stemming from PI 233812 received from Italy in 1956. It was cooperatively released by the Mississippi AES and USDA following evaluation since 1967. Tibbee possessess the desirable characteristics of Frontier, i.e. early maturity, superior seedling vigor, greater fall and winter growth, high forage and seed yields and large seed. In addition the new variety has the ability to reseed under conditions of the lower Southeastern U.S.-- a trait obtained by generations of selection within volunteer stands. The new variety is the earliest of the reseeding crimson clovers, maturing 7 to 10 days earlier than Autauga, and 14 to 18 days ahead of Chief.

In its area of adaptation, Tibbee's large seed, seedling vigor and early maturity contribute to maximum forage production during the critical winter grazing season. And, with proper grazing management, volunteer stands can be maintained even in perennial grass sod such as bermudagrass. Requisites include opportunity for a seed crop to mature in the spring and removal of the grass residue in September.

Foundation seed is available from Mississippi Foundation Seedstocks, State College, Mississippi 39762. Certified seed is expected in 1971.

BLUEGRASS

Sodco Kentucky bluegrass, a 1967 release of Purdue University, is a 4-line composite (with patents applied for). One line goes back to a 1952 selection of an experimental line called "Anheuser dwarf." The other three are selections of similar phenotypes.

Sodco is a dark green, disease-resistant, slow-germinating and slow-growing turf type. It tolerates medium shade and close mowing. The new variety has excellent resistance to powdery mildew and stripe smut. Leaves are medium to wide, height is medium, and thatch buildup is slow.

Sodco was released through Ag Alumni Seed Improvement Association, Purdue, who contracts for production of foundation and certified seed in the State of Washington. Certified seed will be available in quantity for 1971 planting.

Sodco is a turf type that needs ample nutrition, close mowing and good care for best results.

DIGITGRASS

Slenderstem digitgrass (C.I. 300935), selected by the Florida AES, traces to an earlier introduction from Africa. The species is vegetatively propagated though there is some evidence that viable seed might be produced.

This selection has slender stems (as the name suggests) and a medium green color with a bluish tinge. It first produces upright growth, then numerous stolons that root at each node. Seed heads are produced sparingly during the growing season, with most occurring in the late fall.

Slenderstem topkills at about the same temperature as pangola (28-32°F.), but starts regrowth earlier and produces more forage in Florida from October to May than pangola or the bahiagrasses.

Supplies of planting material are limited.

INDIANGRASS

Oto, cooperatively released by the Nebraska AES and ARS-USDA, traces to a collection of clones made in 1953 from natural grasslands of southern Nebraska and eastern Kansas. 100 selected clones were intercrossed in isolation to produce syn 1 seed. Breeder seed of the new variety is the product of the syn 2 generation.

Oto is characterized by spreading, fine-stemmed, leafy, erect plants. The long leaves are bright green. Panicles are broad at anthesis and contract into golden to dark brown compact heads. Maturity is reached a few days after Nebraska 54--early enough for seed harvest in southern Nebraska.

In Nebraska trials, Oto has excelled in stand establishment and total yield on more fertile soils, especially in southern counties. It is recommended primarily for late summer grazing in mixed stands of warm-season grasses. Its area of adaptation is eastern and southern Nebraska, extending into bordering areas of adjacent States and into the Platte, Loup and Elkorn valleys.

Foundation seed was first distributed to certified seed growers in 1970--by Foundation Seed Division, Nebraska Agricultural Experiment Station.

LOVEGRASS

Morpa--the name derived from the words "more" and "palatable"--describes the chief attribute of this new weeping lovegrass, released cooperatively by Oklahoma AES and USDA.

In Oklahoma grazing trials, both cattle and sheep preferred the new variety to other weeping lovegrasses. Steers made 12 to 13 percent higher gains on Morpa than those grazing common weeping lovegrass. Three-year average daily gains for winter and summer on Morpa were 0.68 and 1.85 pounds, compared to 0.59 and 1.69 pounds on common weeping lovegrass.

In forage yield tests at three Oklahoma locations, Morpa equalled or bettered yields of other entries. In seed yields, from two harvests per year, it produced 520 and 560 pounds per acre at Woodward and El Reno, Oklahoma, respectively.

The new variety is expected to be adapted in Oklahoma except for the panhandle, and to other areas where common weeping lovegrass is grown. However, it will not withstand fall grazing in northern Oklahoma.

Certified seed should be available for spring seeding in 1972.

Hallmark orchardgrass is a synthetic of five clones produced by Farmers Forage Research Cooperative, Rte. 2, Box 290, Lafayette, Indiana 47906. Two clones trace to Boone and Potomac, one to seed obtained from Eastern States Farmers Exchange, and two to materials employed in genetic studies at the University of Illinois.

An unusual feature of the production plan is that certified seed will be only two steps removed from the parent clones--i.e. parent clones--breeder seed--certified seed. It is believed this process will present less opportunity for loss of desired characters.

Hallmark is characterized by high forage and seed yields, maturity 2-4 days later than Potomac, and better resistance to rust and leafspot than Common or Boone.

Commercial seed will be available this fall through affiliated cooperatives.

Jackson orchardgrass is a new, late maturing variety developed by the Virginia AES. Because of its week to 10 days later maturity, compared with native commercial orchardgrass, Jackson spreads the harvest season and fits better as a companion crop with alfalfa or red clover.

The new variety is characterized by vigorous, upright growth habit, resistance to leaf diseases, and good seed production. It has good persistence, though perhaps less than native commercial orchardgrass. Maturity, vigor and disease resistance were prime considerations in selection of the parental plants. The new variety has been tested throughout the State.

Virginia 70 - This year on northern Virginia farms 223 acres of Virginia 70 orchardgrass underwent its first inspection for certification. The object is to establish and maintain the identity of the excellent type of orchardgrass that evolved from natural selection in the area. The performance of this orchardgrass had been long recognized but it lacked identity and the protection that identity would provide. To accomplish this end, Virginia Polytechnic forage specialists, beginning in 1967, inspected and traced the origin of orchardgrass fields on many farms. From these they selected nine that (1) typified the Virginia type, (2) had been seeded to an orchardgrass strain grown on the

same farm for 20 years or longer, and (3) that were relatively free of objectionable weeds or other crop species.

The Virginia Crop Improvement Association purchased lots of the seed, cleaned and blended them, then redistributed the blended seed at cost to seed producers interested in producing certified seed.

Thus, the first crop of certified Virginia 70 orchardgrass seed makes its appearance this fall.

INTERMEDIATE WHEATGRASS

Slate is a cool season variety with rapid establishment capability, released cooperatively by USDA and the Nebraska AES. There, it replaces Nebraska 50 and Amur on the certified seed list.

The new variety can be used alone or in mixtures with other cool season grasses for hay or pasture. It is best adapted to fertile well-drained soils; it will not persist on wet or saline sites. For seed production, Slate should be grown in rows or on sites where moisture is limiting.

Plants of this variety are strongly spreading in habit, with reasonable uniformity in height, color and time of flowering. Leaves are broad and flat; not strongly veined or rolled. As they mature, plants appear slate-green in color--intermediate between the bright green and the glaucus blue-green of other varieties. The inflorescence is a well-developed spike with awnless lemmas, either glabrous or with minor pubescence. Occasional spikelets bear seed with short awns or awn-points.

The variety makes most of its forage production during the cool weather of spring and early fall, with only a short period of slow growth following seed production in late July. Seed crops have been obtained the first summer following fall establishment.